

NOVEMBER/DECEMBER 2025

**23UDA31 — FUNDAMENTALS OF DATA
SCIENCE**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Why Data fication is Important?
2. State Slicing.
3. Define the main function of Pandas.
4. What are the purpose of ReIndexing in Pandas data frame?
5. Specify XML Naming Rules.
6. How JSON Object can be Represented?
7. Give an example for Merging data frame on specific columns.
8. What is axis in Concatenate?



9. How to save Plot to file Matplotlib.
10. Classify subplots in Data Visualization?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Comparison between Data Analyst and Data Engineer.

Or

- (b) Demonstrate various ways to create arrays in Numpy.
12. (a) List of some most Important Pandas Functions.

Or

- (b) Elucidate Selection and Filtering.
13. (a) Illustrate File Access Models in Data Science.

Or

- (b) Elaborate Delimited Data Root Field Type.
14. (a) Discuss about Merge overlapping Intervals.

Or

- (b) Expound Reshaping with Hierarchical Indexing.

15. (a) Difference between Line Plots and Bar plots.

Or

- (b) What are function Annotations and how are they Used in short note?

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Delegate about Data Processing using Arrays and Boolean Arrays in detail.
17. Construct an sample program for Ranking.
18. Describe about Reading and Writing at Delimited Data in detail.
19. Demonstrate ways to remove Duplicates from the Lists in brief.
20. Discuss about Colors, Markers and Line Styles in Plotting.

